Info Note

Closing Gender Gaps in Farmers' Access to Climate Information: The Case of Radio Listeners Clubs (RLCs) in Rwanda

Preliminary results of a mixed-method analysis

Chantal Ingabire

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Key messages

- Membership in RLCs removed the significant disparities in awareness, access and use of climate information that usually exist between women and men smallholder farmers.
- The highest proportion of respondents who recorded great changes in income and social standing resulting from use of climate information were women from the RLC groups.
- Women members of RLCs have more diversified sources of climate information compared to others.
- RLCs should be explored as an effective model for closing gender gaps in agricultural climate services.

Introduction

Climate change and variability remain a serious challenge to the agricultural sector, and their impacts are unevenly spread, with certain individuals, groups, communities, and regions being disproportionately affected. Farming communities, especially smallholder poor farmers, are among the most vulnerable groups. This is not gender neutral. Gender disparities inherent in most of these communities tend to impact individuals' capacity to combat and build resilience to the adverse effects of climate change. Women farmers are more affected than men due to inequitable access and control of productive resources as well as unequal intra-household power relations that limit their ability to adapt to climate variability and change. Their limited access to supporting services and time poverty due to unbalanced gender roles also limit their resilience to shocks, keeping them in a climate vulnerability trap.

Access to climate information is a key element in building farmers' preparedness and resilience to climate change and variability. However, it is often also shaped by social norms that restrict women's attendance in meetings and participation in trainings, the unpaid labor that leads to their low interactions in public spheres as well as low contact with agricultural advisory services and membership in various forms of collective actions. Limited access and control of communication assets like mobile phones, television, and radio also contribute to women's low access to climate information.

Box 1: Key socio-economic facts

- The sample was evenly distributed with 51% of the respondents being women and 49% being men.
- In the RLC group, the household heads were younger (44 years versus 47 years old).
- More households in RLCs have a female member who is literate (75% versus 63%).
- Households in the RLC group have lower prevalence of being headed by a female (19%) and a higher chance of their head being married (84% versus 75% in the control group).
- A significantly higher proportion of RLC members access agricultural extension services (95%) compared to the control (66%).
- Crop farming is the primary livelihood of household heads in both RLCs and control groups (respectively 55% and 59%).
- More female household heads were engaging in crop farming as a primary livelihood activity (68% versus 54%).

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Table 1. Proportion (%) of respondents accessing climate information

	Non-participant (n=627)			RLC (n=503)		
	Female	Male	**Diff.**	Female	Male	**Diff.**
Weather forecasts for next 10 days	88.2	93.8	5.6*	98.1	97.1	-1.1
Seasonal forecast of total rainfall	81.3	94.2	13.0***	98.6	97.6	-1.0
Seasonal forecast of onset date	77.0	89.1	12.1**	97.6	96.4	-1.2
Historical seasonal rainfall information	76.3	75.0	-1.3	91.1	80.2	-10.9**

*Note: *, **, *** indicates that the difference is statistically significant at 10%, 5%, 1% respectively.*

The Rwanda Climate Services for Agriculture (RCSA) project aimed to increase Rwandan farmers' access to climate information. In collaboration with a local radio station (Radio Huguka), the project initiated a model by which program broadcasting was combined with farmers' Radio Listeners' Clubs (RLCs) in eight districts in Rwanda.

The objective of this study was to understand the role of Radio Listeners Clubs in increasing farmers' access and use of climate information, with a focus on possible gender differences. The study built on previous quantitative and qualitative studies that were conducted by Birachi et al. (2020) and Gumucio et al. (2020) on climate services in Rwanda.

The major contribution of this study is two-fold; first it allowed an identification of the role played by RLCs in removing gender disparities in accessing and using climate information by comparing sex-disaggregated data within RLCs members as well as comparing the RLCs members and non-members. Second, the mixed-method approach led to new insights in farmers' perspectives of the services and effects of using the climate information that is particularly related to this project.

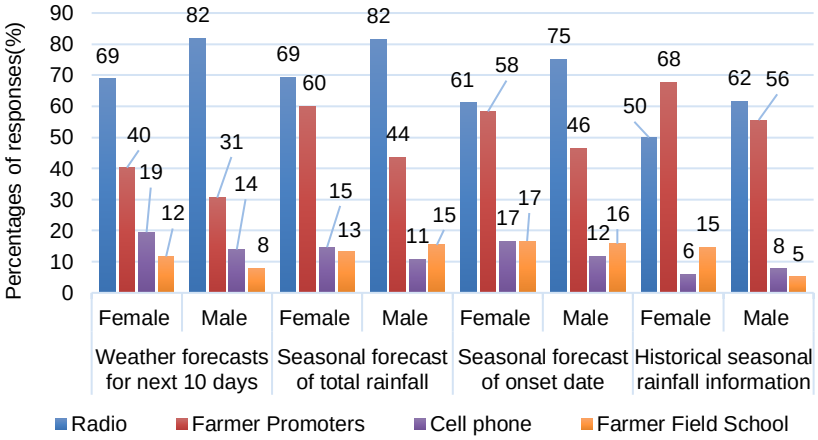
Conceptual Framework and Methodology

The conceptual framework of this study follows the studies by Anderson et al. (2015) that conceive of climate services through a value chain approach. In their view, the value chain of climate services consists of information production and processing component that involves observation, modelling and forecasting, the information service delivery and information utilization levels that results to the achievement of targeted outcomes. This study only focused on the information delivery and utilization levels as well as the outcomes of the utilization. It considered Radio Huguka and Radio Listeners' Clubs as a special service delivery system, the users of climate information that are "women and men smallholder farmers" and the outcomes from using the delivered information that are "crop productivity, food security and social empowerment."

Data collection involved a mixed-method design combining a quantitative survey on 503 members of Radio Listeners' Clubs (RLCs) and 627 non-participants and qualitative methods namely Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs). The analysis compares smallholder farmers from the RLC group to the non-members (control) in various aspects. The study covered the eight districts targeted by the project and the key socioeconomic results are presented in Box 1.

Figure 1. Channels through which members received climate information

Awareness and Access to Climate

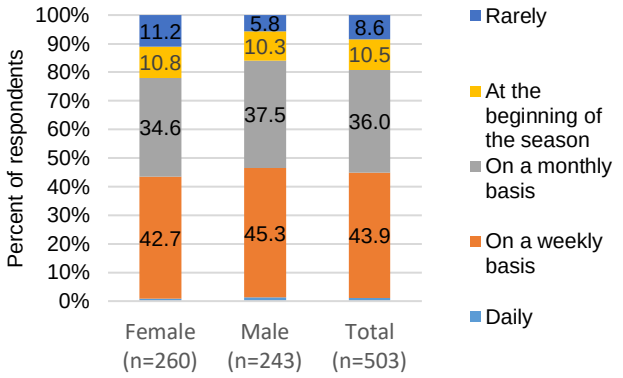


Information

Overall, the majority of sampled respondents were aware of the existence of climate information. Weather forecast for the next 10 days was the most popular type of information known by the respondents. Results showed that in the control group, a significantly lower proportion of women (50%) were aware of this type of information compared to men (58%). In the RLC group, however, the differences between levels of awareness in men and women were not significant. In terms of access to information, more men than women accessed weather forecast for the next 10 days, seasonal forecast of total rainfall, seasonal forecast of onset and historical seasonal rainfall information. However, in the RLC group, this difference was not significant for all types of information, indicating a nonsignificant gender gap in accessing the information in this sub-sample. Access to climate information closely follows the levels of awareness. In the control group, a higher proportion of men accessed weather forecasts for next few days, seasonal forecast of total rainfall and forecast of onset of rains compared to women. In the RLC sub-sample, however, there were no significant differences between access by men and women for all types of climate information except

historical seasonal rainfall information where 91% of women accessed it compared to 80% of men (Table 1).

Figure 2: Frequency of discussing climate information



Channels of accessing climate information

The major channels of climate information in the RLC group was radio followed by farmer promoters, mobile phone, and farmer field schools. Radio was found to be the most popular channel for both women and men but a consistently higher proportion of men received the different types of information through radio than women. (Figure 1). The reverse is true for the rest of the other major sources of information.

The differences between the number of women and men accessing information through radio was surprising since both are members of RLCs and were expected to use radio relatively at the same level. Further, the qualitative findings showed that women have difficulties in following morning radio programs on climate information, and this timing affects their attendance in radio listening sessions as expressed in the below statement.

> *"One of the constraints we have here is the timing of Radio Huguka's program… It is broadcast from 8:30 AM on Wednesdays and that is not favorable to women."*
>
> -- Woman, Gatsibo Village, Rwanda

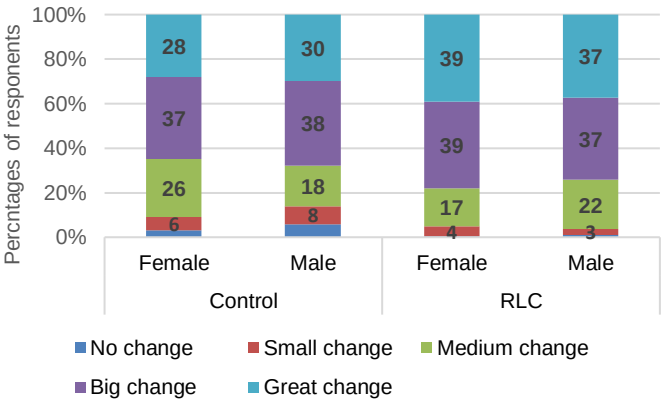
This statement clarified the findings from the survey on RLC members' participation in discussions on climate information during radio listening meetings. The finding showed that men tend to discuss more frequently (45% weekly and 38% monthly) compared to women (43% weekly and 35% monthly. As such, more women (11%) than men (6%) rarely discussed the climate information (Figure 2).

Utilization and effects of climate information

Overall, almost 60% of the respondents made use of climate information to make changes to crop production, 29% to livestock production and 28% to their livelihoods.

Within the control group, there were significant differences between the proportion of men and women who used climate information to make changes in the three aspects where more men than women made such changes. In the RLC group, however, the differences are smaller and not significant. This could be the result of higher exposure to climate information among the women in RLCs, compared to those in the control subsample. Social empowerment and peer influence could also be a cause of the insignificant gender difference in the use of climate information within RLCs. Respondents testified to improvement in income and/or social standing as a result of using climate information in crop production (Fig. 3). More women in the RLCs recorded highest level of changes (39% versus 37% of men within the RLC group and 28% of women in the control), which indicates the positive impact of RLCs on women's utilisation of information

Figure 3: Effects of the utilization of climate information



Conclusion

Low access to climate and weather information is a key limitation to smallholder farmers' adaptation and resilience to climate shocks. This study used a gender approach to assess the contribution of Radio Listeners' Clubs in farmers' access and use of the information. The preliminary results showed a high level of access among both the members of RLCs and the non-members (control group). However, there was a significant gender gap within the control group while the difference between women's and men's access to climate was insignificant in the RLCs. In fact, in the latter group, the women who accessed climate information outnumbered men which suggests that RLCs has significantly contributed to the reduction of the gender gap in this regard. Surprisingly, however, a lower proportion of women from RLCs accessed the information through Radio Huguka. In this group, more women than men used other channels to get the climate information. This reveals the constraints women could be having in regularly using radio and following broadcast programs, but it also indicates that exposure to RLCs has opened their mind to the consideration and searching for climate information, despite the constraints. The preliminary analysis of

respondents' perceptions also showed a positive effect on income and/or social standing as a result of using climate information in crop production. This was higher among the women in RLCs, leading to a conclusion that membership in the RLCs did not only improve women's access and use of the climate information, but it also contributed to women's social and economic empowerment.

Further reading

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Chantal Ingabire *was a Socio-Economics Research Fellow at Rwanda Agriculture and Animal Resources Development Board (RAB) at the time of this study. She is currently serving at the Rwandan Ministry of Agriculture and Animal Resources (MINAGRI) as the Director General of Planning. She is based in Kigali, Rwanda.*

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